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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/662,740	09/15/2000	Francois Sawyer	27950-453	3556

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ANDRE M SZUWALSKI
JENKENS & GILCHRIST PC
3200 FOUNTAIN PLACE
1445 ROSS AVENUE
DALLAS, TX 75202-2799

EXAMINER

CHANG, EDITH M

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/662,740	Applicant(s) SAWYER, FRANCOIS	
	Examiner Edith M Chang	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09152000</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

The article "CDMA-IC: A NOVEL CODE DIVISION MULTIPLE ACCESS SCHEME BASED ON INTERFERENCE CANCELLATION" by Paul Dent, Bjorn Gudmundson and Magnus Ewerbring, listed on page 2 lines 4-8 of the specification of this application has not been considered, since it is not included in the IDS.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. In claims 25 and 28, the "a processor" is not indicated in Figure 4. In claim 31, the "a silent replica producing means" in the narrowband interferer replica sub-generator is not shown in Figure 4. Therefore, the feedback controlling, a processor and a silent replica producing means must be shown or the feature(s) canceled from the claims 25, 28 and 31.

No new matter should be entered. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 2, 13-14, 18, 20, 22-23, 33, 38, 44, and 47-49 are objected to because of the following informalities:

Claim 2, line 7: “each image” is suggested changing to “each image of the plurality of different images”.

Claim 13, line 3: “conducted through” is suggested changing to “conducted”.

Claims 14 & 33: line 2: “the group” is suggested changing to “a group”.

Claims 18 & 23, 38, 44, line 3: “the group” is suggested changing to “a group”.

Claim 20, line 2: “feedback control” is suggested changing to “feedback controlling”.

Claim 22, line 2: “feedback control” is suggested changing to “feedback controlling”; and
lines 3-4: “said selection” is suggested changing to “said selecting”.

Claims 47-49, line 1: “generating an interferer image” is suggested changing to
“generating an image of an interferer”.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 15: “the quality-indicative parameters” lacks antecedent basis and line 18: “the receiver” lacks antecedent basis.

Claim 2, line 12: “the quality-indicative parameters” lacks antecedent basis; and line 14: “the receiver” lacks antecedent basis.

Claim 8, line 2: “generating said replica” lacks antecedent basis.

Claim 11, line 2: “the quality-indicative parameters” lacks antecedent basis.

Claim 15, line 14: “the quality-indicative parameters” lacks antecedent basis; and line 16: “the receiver” lacks antecedent basis.

Claims 18 & 23, line 10: “the quality-indicative parameters” lacks antecedent basis.

Claim 19, lines 4-5: “said one image” lacks antecedent basis; line 4: “the feature” does not clearly indicate what “the feature” is, in the independent claim 15 including “features”; and lines 5-6: “said one subtraction signal” lacks antecedent basis.

Claim 20, lines 2-3: “said one image” lacks antecedent basis; line 2: “the feature” does not clearly indicate what “the feature” is and what the difference from the “different features” recited in the independent claim 15; lines 4-5: “said one subtraction signal” lacks antecedent basis; and line 6: “the receiver” lacks antecedent basis.

Claim 21, line 12: “the quality-indicative parameters” lacks antecedent basis; and line 14: “the receiver” lacks antecedent basis.

Claim 22, line 6: “the receiver” ” lacks antecedent basis.

Claim 24, line 17: the quality-indicative parameters” lacks antecedent basis; and line 18: “the receiver” lacks antecedent basis.

Claim 26, line 3: “the processed interferer replica” lacks antecedent basis.

Claim 34, lines 15-16: “the quality-indicative parameters” lacks antecedent basis; and line 17: “the receiver” lacks antecedent basis.

Claim 35: line 15: “the quality-indicative parameters” lacks antecedent basis; and line 16: “the receiver” lacks antecedent basis.

Claim 39, line 3: “the feature” does not clearly indicate what “the feature” is, in the independent claim 35 including “features”; line 4: “said one image” lacks antecedent basis; and line 5: “said one subtraction signal” lacks antecedent basis.

Claim 41: lines 14-15: “the quality-indicative parameters” lacks antecedent basis; and line 16: “the receiver” lacks antecedent basis.

Claim 42, line 13: "the quality-indicative parameters" lacks antecedent basis; and line 14: "the receiver" lacks antecedent basis.

Claim 45, lines 12-13: "the quality-indicative parameters" lacks antecedent basis; and line 14: "the receiver" lacks antecedent basis.

Claims 3-7, 9-10, 12-14, 16-17, 25, 27-33, 36-38, 40 and 43-44 directly or indirectly dependent on rejected independent claims 1, 15, 24, 35 and 42.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims ~~46-49~~⁴⁷ are rejected under 35 U.S.C. 102(b) as being anticipated by Grobert (US 6327298).

Regarding **claim 46**, In FIG. 1, Grobert discloses a method of generating a replica of the interferer. In FIG. 1, the interference reference generator 28 generates a replica of the interferer (the output of the element 28) from the known spectrum of the narrowband jammer, e.g., continuous wave (CW) interference having a 10 KHz frequency above L₁ band as stated in column 1 lines 50-54 and column 3 lines 20-27, and independently from the GPS received communication signal from antenna 12. The elements 30 and 32 process the output of the element 28 (the replica of the interferer) and the summer 60 summing the processed interferer replica through the LPF and weight elements 42 and 44 to produce the interference image on line

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62. Wherein the elements 30 and 32 are the transfer functions reproducing the signal-processing receiver chain that the signal received from 12 been transmitted through,

Regarding **claim 47**, In FIG.1, Grobert discloses the element 34 and element 42 apply the gain to the processed interference replica I_{REF}/Q_{REF} . Wherein the LPF (low pass filter) having a filter gain and the element 42 (the weighting network) compensate the amplitude of the processed interference replica (column 4 lines 25-31).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grobert (US 6327298) in view of Anderson et al. (US 6778827 B1).

Regarding **claims 48 & 49**, the Grobert's GPS receiver is used in a cellular network as the wireless terminal. It is well known that the wireless cellular receiver is digital implemented from software, firmware, and ASIC, as taught by Anderson et al. in column 4 line 4-8, lines 40-50 and column 5 lines 22-35 that the GPS receiver can be implemented by selecting the digital implementation from software, firmware and ASIC. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the Anderson et al.'s teaching to

implement the interferer image generator in the Grobert's GPS receiver for the purpose of providing the flexibility of digital implementation.

Allowable Subject Matter

10. Claims 1-45 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

11. Claims 13-14, 33, 38 and 44 would be allowable, if rewritten to overcome the objections.

12. The following is a statement of reasons for the indication of allowable subject matter:

Claims are allowable over prior art of record because the prior art of record does not teach or suggest, alone or in a combination, among other things, at least a method for attenuating an interferer and the device as a whole, the combination of elements and features as claimed, which includes generating at least one image of a replica of the interferer from the substantially know spectrum and independently of the signal received; selecting one of the processed received signal and the subtraction signal which is the signal by subtracting the image of the replica from the processed received signal, and the selecting is based on the computed values of the quality-indicative parameter of the processed received signal and the subtraction signal..

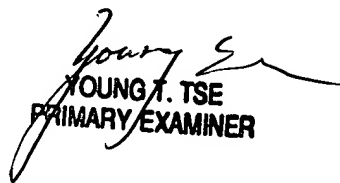
Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edith Chang
September 14, 2004


YOUNG T. TSE
PRIMARY EXAMINER